

RIVERS AND FLOODS.

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The rivers were unusually quiet for the month of April, although the precipitation was sufficient to have caused floods in many of the rivers under ordinary circumstances. As it happened, the early disappearance of the winter snows from the watersheds of the northern rivers, the general absence of rain during the month of March following, and the freedom from severe cold combined to render the soil dry and soft, so that a much larger percentage than usual of the copious April rains was directly absorbed, and the rivers, as a rule, exhibited a falling tendency.

There were, however, several sharp rises during the early portion of the second week of the month in the rivers of Texas and southwestern Arkansas, including that portion of the Red in the latter vicinity. These rises were due to heavy local rains and, although advisory warnings of their coming were issued, they were not of sufficient magnitude to cause trouble beyond that incident to the temporary removal of cattle and portable property.

The prolonged rain period that prevailed over the Atlantic States during the latter half of the month was responsible for

some decided rises in the rivers of the Atlantic States, but no damage of consequence resulted, except along some of the streams of the State of North Carolina, where the losses were about \$50,000, chiefly along the Tar River and its tributaries. Warnings were issued in ample time and property to the value of \$40,000 was reported as saved. In the North Atlantic States no damage was done except locally along some of the smaller streams of western New York.

The rivers of the Pacific system were unusually low owing to the early disappearance of the snows and the absence of heavy rains. The annual rise of the Columbia River began about the middle of the month.

Hydrographs for typical points on several principal rivers are shown on Chart I. The stations selected for charting are Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.

SPECIAL PAPERS ON GENERAL METEOROLOGY.

RECENT PAPERS BEARING ON METEOROLOGY AND SEISMOLOGY.

C. FITZHUGH TALMAN, Librarian.

The subjoined titles have been selected from the contents of the periodicals and serials recently received in the Library of the Weather Bureau. The titles selected are of papers or other communications bearing on meteorology or cognate branches of science. This is not a complete index of the meteorological contents of all the journals from which it has been compiled; it shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau. Unsigned articles are indicated by a —.

Aeronautics. New York. v. 6. June, 1910.

Willard, Charles F. Flying and humidity. p. 195. [Author thinks humidity affects the altitude attainable in artificial flight.]

American geographical society. Bulletin. New York. v. 42. April, 1910.

Arctowski, Henryk. Studies on climate and crops. 1. Variations in the distribution of atmospheric pressure in North America. p. 270-282.

Engineering news. New York. v. 63. 1910.

— Flood losses in Missouri. p. 531. (May 5.)

Roberts, Thomas P. Comments on Prof. Swain's article on floods and forests. p. 595-596. (May 19.)

Nature. London. v. 83. 1910.

Cook, J. Centre of gravity of annual rainfall. p. 248-249. (April 28.) [With reply by A. Watt.]

— Halley's comet and meteorology. Proposed observations during progress through the tail of Halley's comet. p. 320-322. (May 12.)

Chree, Charles. Magnetic storms. p. 354-358. (May 19.) [From a discourse delivered at the Royal Institution on Friday, March 4, by Dr. C. Chree, F.R.S., Superintendent Observatory department, National physical observatory.]

London, Edinburgh and Dublin philosophical magazine. London. 6 series. v. 19. May, 1910.

Eve, A. S. The effect of dust and smoke on the ionization of air. p. 657-673.

Simpson, George C. Earth-air electric currents. p. 715-725.

Popular science monthly. New York. v. 76. June, 1910.

Brigham, Alfred Perry. Scenery, soil and the atmosphere. p. 570-580.

Royal society. Proceedings. London. ser. A. v. 83. 1910.

Sewall, C. J. T. The extinction of sound in a viscous atmosphere by small obstacles of cylindrical and spherical form. p. 547-548.

Royal society of South Africa. Transactions. Cape Town. v. 1. 1910.

Howard, A. G. The rainfall of South Africa. p. 363-390.

Sutton, J. R. Evaporation in a current of air. p. 417-427.

Science. New York. v. 31. May 18, 1910.

Bastin, Edson S. Evidences of paleobotany as to geological climate. p. 760. [Abstract.]

Scientific American. New York. v. 102. 1910.

Boyer, Jacques. The new Eiffel photographic heliograph. p. 393. (May 14.) [Form of photographic sunshine recorder. Illustrated.]

Boyer, Jacques. Eiffel's recent experiments on the resistance of the air. p. 437-438. (May 28.)

Michaud, Gustave. The Cartago earthquake. p. 440-441. (May 28.) [Illustrated.]

Ciel et terre. Bruxelles. 31 année. Avril 1910.

Hauet, Gaston. Les taches du soleil et leur influence sur le globe terrestre. p. 156-167.

France. Académie des sciences. Comptes rendus. Paris. Tome 150. 1910.

Bounhiol, J. P. Sur le régime thermique de la Méditerranée littorale algérienne. p. 1197-1199. (9 mai.)

Strohl, J. Le poids relatif du cœur et l'effet des grandes altitudes. Étude comparative sur deux espèces de Lagopèdes habitant, l'une des Hautes-Alpes, l'autre les plaines de la Laponie. p. 1257-1260. (17 mai.)

Nature. Paris. 38 année. 21 mai 1910.

Nécrologie: Bernard Brunhes. Supplément. p. 193.

Annalen der Hydrographie und maritimen Meteorologie. Berlin. 38. Jahrgang. Mai 1910.

Köppen, Wladimir. Aufstiege von Pilotballons auf deutschen Handelsschiffen in den Jahren 1906 bis 1908. p. 201-217.

Aus dem Archiv der deutschen Seewarte. Hamburg. 32. Jahrgang. 1909.

Grossmann, L. Die Stürme und die Sturmwarnungen an der deutschen Küste in den Jahren 1896 bis 1905. p. 3-47.

Himmel und Erde. Berlin. Jahrgang 22. Mai 1910.

Trabert, Wilhelm. Einige Ergebnisse des aeronautischen Observatoriums in Lindenberg. p. 337-343.

Meteorologische Zeitschrift. Braunschweig. Band 27. April, 1910.

Rykachev, M., jun. Beobachtungen in den verschiedenen Schichten der Atmosphäre, angestellt auf der Seefahrt von St. Petersburg nach Odessa am Bord des russischen Dampfers "Neptun." p. 145-154.

Hann, Julius. Wilhelm Meinardus: Die meteorologischen Ergebnisse der deutschen Südpolar-Expedition (Winterstation des "Gauss") 1901 bis 1903. p. 155-161.

Defant, A. Zur Theorie der Berg- und Talwinde. p. 161-168.

Wagner, A. Zur Genauigkeit der Höhenangaben sehr hoher Ballonsondeaufstiege. p. 170-172.

Schreiber, Paul. Das Wolkenproblem. p. 172-175.

Strub, W. Über Mangel des Campbell-Stokesschen Sonnenscheinautographen. p. 175-178.

Hann, Julius. P. Wiski über das Klima der Insel Thera. p. 178-182.

— Sv. Arrhenius über die physikalischen Grundlagen der Kohlen-säuretheorie der Klimaänderungen. p. 182-183.

Tetens, Otto & Assmann, [Richard A.]. Lindenberg, Verwendung seines täglichen Beobachtungsmaterials durch Trabert. p. 183-186. [Abstracts of three papers by Trabert.]

Peppler, W. Guilbert, Gabriel: Nouvelle méthode de prévision du temps. p. 189-191.

Petermanns Mitteilungen. Gotha. 56. Band. Februar 1910.

Marek, Richard. Beiträge zur Klimatographie der oberen Waldgrenze in den Ostalpen. p. 63-69.

Prometheus. Berlin. Jahrgang 21. 4. Mai 1910.

B., O. Ein neues Verfahren zur Luftverbesserung durch Ozon. p. 489-490.